

KS



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/701,210 | 03/27/2001 | Shlomo Margel | LUZZ-051CIP | 7952 |
| 530 | 7590 | 06/16/2005 | EXAMINER | |
| LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090 | | | SHARAREH, SHAHNAM J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1617 | |

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. .

09/701,210

Applicant(s)

MARGEL ET AL.

Examiner

Shahnam Sharareh

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-46, 49 and 50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-46, 49-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

5-0-0

DETAILED ACTION

Amendment filed on March 18, 2005 has been entered. Claims 1-5, 7-46, 49-50 are pending. Claims 33-46 stand withdrawn from consideration. Any rejection that is not addressed in this Office Action is considered obviated in view of the claim amendments.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 7-32, 49-50 stand rejected under 35 U.S.C. 102(b) as anticipated Margel US Patent 4,783,336.

Applicant's arguments with respect to this rejection have been fully considered but are not persuasive.

First, In response to applicant's argument that the prior art does not teach preparation of monodispersed nanoparticles, Examiner states that in a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Here, all the instantly recited steps are described by Margel, therefore, Margel's methods anticipate the instant claims.

Second, Applicant appears to argue various features that are not elemental to the claimed limitations. Accordingly, Applicant's arguments are not commensurate with the scope of the claims. (see Arguments at page 9-10).

Further, Examiner states that during patent prosecution Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. See, e.g., *In re Zletz*, 893 F.2d 319, 321 - 22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). However, "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." *In re Prater*, 162 USPQ 541, 550 - 51 (CCPA 1969). Here Applicant advocates the impermissible importation of subject matter from the specification into the claim.

For example, the type of polymers used in Margel is not excluded in the breadth of the instant claims. Applicant argues that the prior art uses anionic polyacrolein microspheres that are relatively large anionic microspheres (see Arguments at page 9). Nevertheless, the instant claims do not exclude such polymers. Applicant also argues that the prior art prepares microparticles within 0.3 micrometers. Again, there is no elemental step that differentiates such particles from the claimed nanoparticles. 0.3 micrometer size of prior art is still within nanoparticle range.

Applicant also argues that the Margel dose not teach a chelating step. Again the instant generic claims do not comprise such step.

Margel discloses methods of preparing an coated acrolein type in nanometer sizes comprising mixing an aqueous solution of acrolein with an aqueous dispersion of Fe₃O₄ in presence of an oxidizing agent at pH values above 7 to form magnetic particles of uniform size, wherein said particles are cross linked to various bioactive

Art Unit: 1617

agents such as immunoglobulin or fluorescent dyes for various utilities such as cell labeling, cell separation, diagnostic purposes, etc.. (see col 1, lines 10-62, examples 3, 20, 27; and claims 1, 4-13).

The formation addition of ferrofluidic solution to polymeric solution of Margel occurs over a 12 hours period. (see col 6, lines 40-55). Examiner has explained that that Margel's process of adding the metallic solution to the polymeric solution meets the limitations of the instant step (g) because it is done during a 12 hour period and the instant step does not exclude the process described by Margel. Therefore, such step is viewed to meet the instantly claimed step of successively repeating the step (a) to (f) of the claim 1.

Margels' method employs polymerizing acrolein to form anionic polyacrolein microspheres at pH of about 13. (col 2, line 47; col 3, line32). Such polymers are within the scope of the instant claims because they are anionic and contain hydroxyl, carboxyl; ether groups. (see col 2, lines 40-50; col 1, lines 45-62). Margel states that anionic polymers such as PolyvinylPyridine may be coated in the same manner as the polyacrolein beads (col 3, lines 51-56).

Note that Margel uses a nitrate salt oxidizing agent such as persulfate-silver nitrate which meets the limitations of claims 12-15. (col 2, lines 51-65). Margel uses a basic surfactant or solution to maintain a high pH during his microsphere formation which meets the limitations of claims 17-18 (see col 3, lines 25-35; col 4, lines 40-51).

Margel employs diagnostic agents such as rhodamine isothiocyanate to prepare fluorescent microspheres (col 4, line 65-col 5, line2). Margel finally labels other

Art Unit: 1617

biological molecules with the polyacrolein microspheres meeting claims 24-32 (col 7, line 65-col 8, line22). All limitations of the instant claims are described by Margel.

Applicant has not provided any evidence excluding the prior art from the instant claims.

Thus, the rejection is maintained.

Claim Rejections - 35 USC § 103

Claims 1-5, 7-32, 59-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elaissari et al US Patent 6,133,047 in view of Hirai US Patent 5,213,895.

Applicant's arguments with respect to this rejection have been fully considered but are not persuasive. As the initial matter, applicant's arguments are directed to unclaimed limitations. For example applicant argues that Hirari does not teach a chelating step. However, the instant claims do not comprise an active chelating step. Further, the recited polymeric metals described in the prior art are within the scope of the instantly claimed polymers.

Thus, they are capable of providing the same chelating function as well. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Here, all elements of the instant claims are described by the combined teachings of the references. Thus, the shortcomings of any individual reference can not be the basis of nonobviousness.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is ample knowledge available to one of ordinary skill in the art to combine the teaching of the references to reach the instant methods.

Elaissari teachings only fails in using polymeric solutions such as polyvinylpyrrolidone or gelatin or a nitric acid oxidizer for his process. Hirai teaches methods of preparing nanoparticles comprising preparing a polymeric solution such as polyvinylpyrrolidone or gelatin and adding an aqueous metallic solution to the polymeric moiety (see col 9, lines 25-60; col 12, lines 14-65; col 13, line 62-col 14, lines 67). The process of Hirai leads to formation of magnetite particles which meets the limitations of the instant magnetic iron oxide. (col 14, lines 45-67). The polymeric solution of Hirai contains a concentration (col 8, lines 14-18). Hirai describes the use of nitrate ion as oxidizer (col 19, lines 30-36).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to perform Elaissari's methodology with other suitable polymeric solutions such as those described by Hirai, because as taught by Hirai, such polymeric moieties are expected to provide similar results as those used by Elaissari. Further using

an oxidizing agent during the process of oxidation is a matter of design choice and merely selecting a nitrate for such purpose would have been obvious absence of showing an unexpected result.

Conclusion

No claims are allowed.


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahnam Sharareh whose telephone number is 571-272-0630. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, PhD can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SHENGJUN WANG
PRIMARY EXAMINER